



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/613,498

07/03/2003

Mark H. Germagian

18133-178

4416

30623

7590

02/28/2006

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY  
AND POPEO, P.C.  
ONE FINANCIAL CENTER  
BOSTON, MA 02111

EXAMINER

AMRANY, ADI

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/613,498

Applicant(s)

GERMAGIAN ET AL.

Examiner

Adi Amrany

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 15, 18-19, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: page 9, line 31, it appears that "if" should replace "of" in the sentence after "high-voltage position."

Appropriate correction is required.

### ***Claim Objections***

2. Claims 2-4, 6, 15, 18-19, 23 and 24 are objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 2-4, 18, and 24, the use of "about" renders them indefinite because there is no disclosure in the specification to the amount the voltage level may deviate from the claimed levels and still be "about" the level. See MPEP §2173.05(b). Further, the threshold levels disclosed appear arbitrary and do not alter the functionality of the power adapter. A threshold of 17v, can be considered "about 18," and the power adapter would function in the same manner.

Claim 19 is objected to because it depends on claim 18.

With respect to claim 6, it is objected to as being misdescriptive because there is no teaching or suggestion for the limitation "configured to inhibit power" in the specification. The specification discloses that the selector circuit maintains the relay in the default high position if it receives an AC or a high DC voltage and the circuit switches the relay to the low position if it receives a low DC voltage. The selector circuit

Art Unit: 2836

is disclosed as only having two possible outputs, one causes the relay to stay in (or switch to) the high position, and the other causes the relay to switch to (or stay in) the low position (page 9, line 15 to page 10, line 22). If the input power is below the threshold, the selector circuit, as disclosed, causes the relay to switch to the low position and the input power is directed to the DC/DC converter. There is no disclosure in the specification that the selector circuit has the ability to inhibit power flow from reaching the relay. The specification discloses a low-voltage cutout (page 10, line 21), but further discloses that the cutout circuitry doesn't affect the selection of circuitry by the relay (high switch or low switch) for voltages received by the input.

With respect to claim 15, it is objected to because it discloses the limitation that the power adapter and associated connectors and cords are to be carried by a single person using one arm. Parent claim 14 already discloses that the power adapter is portable. The claim appears to be drawn to the physical abilities of the user, rather than the power supply system.

With respect to claim 23, it is objected to as being misdescriptive. The language used in the claim suggests that input power is coupled to the high-voltage apparatus by "inhibiting the switch from the default, high-voltage position." To inhibit means to prevent a specific signal or event from occurring. By inhibiting the switch from the high-voltage position, the power adapter is forcing the switch to couple to the low-voltage switch, which does not lead to the high-voltage apparatus. It appears that "the switch" should be "switching."

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 7-8, 10-15, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US 5,499,187).

With respect to claim 7, Smith discloses a power supply system (figure 1) for receiving and processing power of different voltages, the system comprising:

an input apparatus (figure 1, items 12A and 12B, and column 2, lines 47-48) configured to be coupled to a plurality of different socket configurations (figure 1, item 6, and column 6, lines 54-58) each associated with one of relative-high AC voltage (column 2, lines 58-61) and relatively-low DC voltage (column 3, lines 2-5).

an output device (figure 5, items 16 and 17, and column 4, lines 9-20) configured to couple to at least one electronic device to provide output power to the electronic device, the output power having an associated voltage appropriate for the electronic device,

a power adapter (figure 1, item 10, and column 3, lines 10-25) coupled to the input apparatus and the output device and configured to automatically provide input power received through the input apparatus having the relative-low DC voltage to low-DC-voltage converter circuitry (figure 2, items 15 and 15T, and

column 3, lines 18-20 and 21-22) and having the relatively-high AC voltage to high-AC-voltage converter circuitry (figure 2, items 14 and 14T, and column 3, lines 16-18 and 20-21.) to produce the output power for the electronic device.

With respect to claim 8, Smith discloses the system of claim 7, and further discloses the power adapted is configured to provide the input power to one of the low-DC-voltage circuitry and the high-AC-voltage circuitry based only upon at least one electrical characteristic of the input power (figure 2, items 14 and 15, and column 3, lines 16-22). Smith discloses that the voltage sensors (14, 15) can detect the presence of either AC or DC voltage.

With respect to claim 10, Smith discloses the system of claim 7, and further discloses the input apparatus is configured to provide the input power to one of the low-DC-voltage circuitry and the high-AC-voltage circuitry independent of user input to the system. Smith discloses an "autoselecting interface 10," that creates control signals to activate the respective switches. It is inherent that an autoselecting interface would function without user input.

With respect to claim 11, Smith discloses the system of claim 7, and further discloses the input apparatus includes a plurality of connectors (column 2, lines 54-58) configured to fit into at least two of a United States wall socket, a wall socket of a country other than the United States, an automobile cigarette lighter socket, and an airline power socket. Smith discloses a power supply for connection to aircraft power sources in the range of 115-230 VAC and 18-40 VDC. The Smith power supply can be

connected to at least an airline power socket (as disclosed) and a foreign wall socket with an output voltage of 220 VAC.

With respect to claim 12, Smith discloses the system of claim 11, and further discloses the plurality of connectors are configured to be removably coupled to the power adapter (column 4, lines 58-59). Smith discloses at least one adaptor 6 to connect different plugs to the input terminals (figure 3, items 12A and 12B).

With respect to claim 13, Smith discloses the system of claim 12, and further discloses the input apparatus includes a power cord fixedly coupled to the power adapter and the plurality of connectors are configured to be removably coupled to the power cord. It is inherent that the Smith apparatus comprises a power cord. Otherwise, the apparatus would have to be placed directly onto a power outlet in order to operate. This configuration is not possible; especially since the Smith apparatus is designed for use on airplanes. Further, it is inherent in Smith that the connectors (adaptor 6) would be coupled to one end of the power cord, with the other end fixed to the terminals.

With respect to claim 14, Smith discloses a portable power supply system (figure 1) for providing power from different sources having different voltages to portable electronic devices, the system comprising:

- a plurality of input connectors (column 2, lines 54-58) configured to fit into receptacles associated with respective AC and DC voltages;

- a single input cord (figure 1, items 12A and 12B), wherein the input cord and the input connectors are configured to be removably coupled together (column 2, lines 56-58 disclose at least 1 adapter coupled to different plugs);

a plurality of output connectors (figure 1, item 34, column 2 lines 52-54) configured to fit into power receptacles of portable electronic devices; and

a power adapter (figure 1, item 10, and column 3, lines 10-25) coupled to the single input cord and configured to be coupled to the output connectors and including coupling means (column 2, lines 48-52) for automatically coupling high-voltage AC signals received by the single input cord to high-voltage AC-to-DC converter circuitry (figure 1, items 14 and 14T, and column 3, lines 16-18 and 20-21) and automatically coupling low-voltage DC signals received by the single input cord to low-voltage DC-to-DC converter circuitry (figure 1, items 15 and 15T, and column 3, lines 18-20 and 21-22).

With respect to claim 15, Smith discloses the system of claim 14, and further discloses the system is configured to be carried by a single person using one arm. Smith discloses the power system that can be brought onto an airplane (column 2, lines 44-48). Typical airplane isles are narrow and it would be difficult to arrange for a plurality of people to assist in carrying a single item. This difficulty is further compounded when the size of the average power supply system is taken into account. It is inherent that the design of any equipment brought aboard an airplane would allow it to be carried by one person using only one arm.

With respect to claim 17, Smith discloses the system of claim 14, and further discloses the input connectors are configured to fit into at least two of a United States wall socket, a wall socket of a country other than the United States, an automobile cigarette lighter socket, and an airline power socket. The power supply disclosed by



Smith can connect to at least an airline power socket and a foreign wall socket as discussed above.

With respect to claim 18, Smith discloses the system of claim 17, and further discloses the coupling means is configured to couple 110 VAC and 220 VAC signals (column 2, lines 58-61) to the high-voltage AC-to-DC converter circuitry and to couple signals with DC voltages between about 11 VDC and about 16 VDC to the low voltage DC-to-DC converter circuitry. Smith discloses a VDC range of 18-40v (column 3, lines 2-5); this disclosure anticipates the elements of claim 18. Smith states that 18-40v is typical among aircraft DC power sources. Any power adapter that is to be coupled to an aircraft power source, therefor, must be able to support these input voltage levels.

With respect to claim 19, Smith discloses the system of claim 18, and further discloses the coupling means configured to couple signals received by the single input cord to one of the low-voltage DC-to-DC converter circuitry and the high-voltage AC-to-DC converter circuitry independent of user input to the system. Smith discloses an "autoselecting interface 10," that functions without user input, as discussed above.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 9, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Worley (US 6,885,016).

With respect to claim 1, Smith discloses a power adapter (figure 1) comprising:

an input (figure 1, items 12A and 12B, and column 2, lines 47-48)

configured to receive input power,

a switch (figure 5, items 16 and 17, and column 4, lines 9-20) coupled to the input and configured to selectively couple the input to one of a low-voltage output and a high-voltage output, the switch being in one of a low-voltage position and a high-voltage position, respectively, and

a selector circuit (figure 1, item 10, and column 3, lines 10-25) coupled to the input and to the switch and configured to provide a control signal (figure 2, items 14T and 15T, and column 3, lines 16-25).

Smith does not expressly disclose the selector circuit is configured to provide a control signal to the switch such that the switch will be in the low-voltage position if the input receives input power having a DC voltage lower than a threshold voltage and will be in the high-voltage position if the input power has an AC voltage higher than the threshold voltage.

Worley discloses a selector circuit (figure 1, namely item 101, column 1, lines 59-64, and column 2, lines 9-12) configured to provide a control signal to the switch (figure 1, item 105) such that the switch will be in the low-voltage position if the input receives input power having a DC voltage lower than a threshold and will be in the high-voltage

position if the input power has an AC voltage higher than the threshold voltage (column 2, lines 17-20, and column 2, line 56 to column 3, line 27).

Worley discloses a switch control circuit that controls the biasing of a MOS power transistor based signals received from a threshold detector.

Smith and Worley are analogous because they are from the same field of endeavor, namely circuitry for selecting a variable input power level and passing the correct voltage to a load.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the AC voltage vs. DC voltage detection circuit in Smith with the high voltage vs. low voltage detection circuit disclosed in Worley.

The motivation for doing so would have been to create a selector circuit capable of connecting a load to its designed input power level and protecting the load from improper input voltage levels.

With respect to claim 2, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the threshold is about, but above, 18 volts. Smith discloses an input voltage level range of 18-40v (column 3, lines 2-5), because it is suitable for use with aircraft power sources.

With respect to claim 3, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the selector circuit is configured to cause the switch to be in the low-voltage position if the input power has a voltage of between about 11 VDC and about 16 VDC. Persons of ordinary skill in the art would extend or expand the operating

Art Unit: 2836

range to accommodate lower voltages occurring in systems having different design requirements. It has been decided that were the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 4, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the selector circuit is configured to cause the switch to be in the high-voltage position if the input power has a voltage of at least about 90 VAC rms. The accepted input AC voltage range is designed for use with an aircraft power system (Worley, column 1, lines 53-56).

With respect to claim 5, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the switch is configured to be in the high-voltage position as a default, and the selector circuit is configured to cause the switch to change from the high-voltage position to the low-voltage position if the voltage of the input power is lower than the threshold. Smith discloses open-close switches (figure 5, items 16 and 17). In Smith, both sets of open-close switches are in an open default position. At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to replace the two pairs of open-close switches in Smith with the relay of the present application. Applicants' use of a relay creates the need for the switch to be at a default input power selection state.

With respect to claim 6, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the selector circuit is configured to inhibit power from the

selector circuit from reaching the switch if the voltage of the input power is below the threshold and to couple power from the selector circuit to the switch if the voltage of the input power is above the threshold.

With respect to claim 9, Smith discloses the system of claim 8, but does not expressly disclose one of the electrical characteristics is the voltage of the input power.

Worley discloses a power supply system that detects the input voltage level (figure 1, and column 2, lines 17-20 and 57-61).

With respect to claim 20, Smith, in view of Worley, disclose the elements that comprise the method of providing an appropriate level of DC power. These elements are discussed in the §103(a) rejection to claim 1, above.

With respect to claim 21, Smith, in view of Worley, disclose the elements of method claim 20, and further disclose actuating a switch, coupled to receive the input power, to a low-voltage position, as discussed in the claim 1 rejection, above.

With respect to claim 22, Smith, in view of Worley, disclose the elements of method claim 21, and further discloses where automatically coupling the received input power to the low-voltage apparatus comprises actuating the switch from a default, high-voltage position to the low-voltage position, wherein the switch couples the input power to a high-voltage conversion circuit in the high-voltage position and couples the input power to a low-voltage conversion circuit in the low-voltage position, as discussed in the claim 1 rejection, above. Further the limitation of a default high-voltage position is unpatentable over Smith, in view of Worley, as discussed in the claim 5 rejection.

With respect to claim 23, Smith, in view of Worley, disclose the elements of method claim 22, and further, the limitation that automatically coupling the received input power to the high-voltage apparatus comprising inhibiting *switching* from the default, high-voltage position would have been obvious to a person of ordinary skill in the art. Smith discloses open-close switches (figure 5, items 16 and 17). Applicants' use of relays create the need for the switch to be at a default input power selection state, as discussed above.

With respect to claim 24, Smith, in view of Worley, disclose the elements of method claim 20, and further disclose where the threshold is 18 volts, as discussed in the claim 2 rejection, above.

With respect to claim 25, Smith, in view of Worley, disclose the elements of method claim 20, and Smith further discloses that automatically coupling the received input power to the high-voltage apparatus and the automatically coupling the received input power to the low-voltage apparatus occurs independently of user input (column 2, lines 44-48). Smith discloses an "autoselecting power supply" and an "autoselecting interface." It is inherent that an autoselecting device would perform independently of user input.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith. Smith discloses the system of claim 14, and further discloses that the system is portable (column 1, lines 8-13). Smith does not expressly disclose that the system comprises a backpack housing configured to hold the input connectors, input cord, output connectors, and power adapter.

At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to place the portable system in a backpack housing that is configured to hold the input connectors, input cord, output connectors, and power adapter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PHUONG T. V.  
PRIMARY EXAMINER